REMARKS

This communication is a response to the aforementioned final Office Action dated January 21, 2011. By this Communication, claims 1, 2, 11, 12, 19 and 24 are amended. Claims 3, 4, 13, 14, 25 and 26 are not amended and remain in the application. Thus, claims 1-4, 11-14, 19 and 24-26 are pending in the application. Claims 1, 11 and 19 are independent.

Reconsideration of the application and withdrawal of the rejections of the claims are respectfully requested in view of the foregoing amendments and the following remarks.

I. Rejections Under 35 U.S.C. § 112

Claims 1, 11 and 19 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office alleged that claims 1, 11 and 19 contain subject matter which was not described in the specification in such a way as to reasonably convey to cone skilled in the art that Applicant had, at the time the application was filed, possession of the claimed invention.

In particular, the Office alleged that there is not "***concrete support***" for the feature of "inhibiting every program that is judged to be an illegal program from being run on said controlling apparatus", as recited in claims 1, 11 and 19 (emphasis added). It is not clear what definition the Office ascribes to the phrase "concrete support". Furthermore, it is noted that 35 U.S.C. § 112, first paragraph, does not require such "concrete support".

To satisfy the written description requirement, Applicant's specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See MPEP 2163(I), second paragraph (citations omitted) and MPEP 2163.02. It is well-settled that the subject matter of a claimed invention need not be described literally in the specification (i.e., using the exact same terms or *in haec verba*). See MPEP 2163.02.

The Office appears to be improperly relying on an *in haec verba* standard for interpreting whether the specification and drawings provide a written description of

for the feature of "inhibiting every program that is judged to be an illegal program from being run on said controlling apparatus", as recited in claims 1, 11 and 19.

The specification and drawings unequivocally provide support for the feature of "inhibiting every program that is judged to be an illegal program from being run on said controlling apparatus", as recited in claims 1, 11 and 19. For the Office's convenience, a description of disclosed embodiments of the present disclosure is provided below to demonstrate that the Office is impermissibly relying on an *in haec verba* interpretation of written description for terms recited in claims 1, 11 and 19, and that one skilled in the art would readily understand and appreciate that all features recited in claims 1, 11 and 19 are fully supported by the specification and drawings.

An exemplary embodiment of the present disclosure provides a method and computer program for causing a controlling apparatus intended to control an image forming apparatus, as well as a controlling apparatus for controlling an image forming apparatus. An exemplary configuration of the controlling apparatus is illustrated in Figure 1, in which a computer 200 is limited to controlling an image forming apparatus such as copying machine 300 (see paragraph [0023] on page 7 and paragraphs [0073]-[0074] on pages 22-23 of the specification).

As illustrated in Figure 3, a hard disk 204 of the computer 200 includes a database 240 in which a file list 241 and running program status list 242 are stored. The file list 241 is a list of all files, such as programs, which are required to exist in a specific storage area of a logical drive of hard disk 204 for controlling a multifunctional peripheral (MFP) 100 that includes the computer 200 and copying/scanning machine 300 (see, e.g., paragraph [0039]). The running program status list 242 is a list of all programs that can be run on the MFP 100 for controlling the MFP 100 (see, e.g., paragraph [0076]). As described in paragraph [0041] on page 11, the file list 241 and running program status list 242 are set up prior to factory shipment of MFP 100 and the controlling apparatus, and are stored in the hard disk 204 of the controlling apparatus. Accordingly, the file list 241 and the running program status list 242 are preset lists of programs and files that are authorized to be run on the controlling apparatus to control the image forming

apparatus, such as the copying/scanning machine 300 illustrated in Figure 1, for example.

With reference to steps S117-S119 in Figure 5 and paragraphs [0076]-[0080] on pages 23-24 of the specification, the disclosed embodiment provides that the programs which are actually running on the limited-purpose computer 200 are confirmed (step S117). If there is any confirmed program which is not included in the running program status list 242, then that program is, <u>without exception</u>, judged as an illegal program resulting from a computer virus infection and is deleted or isolated (see step S118 (Yes) and step S119, and paragraphs [0079]-[0080] on page 24).

Accordingly, the disclosed embodiment provides that if a program whose running state has been confirmed is not included in a preset list 242 of programs that is exhaustively inclusive of every program which can be run on the limited-purpose computer 200 to control the MFP 100, then that program is, <u>without exception</u>, judged as an illegal program and inhibited from being run on the computer 200.

The term "inhibit" means "prohibit; forbid" (see, e.g., the Merriam-Webster Dictionary and the American Heritage Dictionary of the English Language). The Office appears to object to the use of the term "inhibit" because it does not appear in the specification in precisely the manner in which it is recited in the claims. However, as noted above, 35 U.S.C. § 112, first paragraph, does not impose an *in haec verba* requirement of word-for-word correspondence between the claimed invention and the specification. On the contrary, if one skilled in the art would recognize that Applicant had possession of the claimed invention, then the written description requirement is satisfied. In the present instance, Applicant has disclosed an exemplary embodiment in which if a program whose running state has been confirmed is not contained in an exhaustive list 242 of programs that are authorized to be run to control the image forming apparatus, then that program is automatically deleted or isolated (see "YES" branch from step S118). The disclosed embodiment does not disclose or suggest any exceptions to this rule. Furthermore, the deletion and/or isolation of an illegal program are both types of inhibiting. Consequently, the disclosed embodiment provides clear and unequivocal support for the feature of "inhibiting every program that is judged to be an illegal program from being run on said controlling apparatus", as recited in claims 1, 11 and 19.

The Office also alleged that the term "inhibiting" can be broadly interpreted as meaning "manually deleting or isolating", which the Office contends is not supported in the specification. To obviate this interpretation, claims 1, 11 and 19 have each been amended to recite the feature of "automatically inhibiting every program...." Consequently, any claim depending from claims 1, 11 and 19 includes the feature of "automatically inhibiting".

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19 each comply with the written description requirement under 35 U.S.C. § 112, first paragraph. Therefore, Applicant respectfully requests that rejections of claims 1, 11 and 19 under 35 U.S.C. § 112, first paragraph, be withdrawn.

II.   Rejections Under 35 U.S.C. § 103(a)

A.   Claims 1-3, 11-13, 19 and 24-25 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Geiger et al. (WO 00/72149, hereinafter "Geiger") in view of Radatti (U.S. Publication No. 2003/0140049) and further in view of Motoyama et al. (U.S. Patent No. 7,743,133, hereinafter "Motoyama").

Without acquiescing to this rejection, independent claims 1, 11 and 19 have each been amended to emphasize additional distinguishing features over the applied references. Applicant respectfully submits that the claimed invention is patentable over the applied references for at least the following reasons.

The purported combination of Geiger, Radatti and Motoyama cannot support the rejection of the claimed invention under 35 U.S.C. § 103(a), because these references, either individually or in combination, do not establish that all the elements recited in the claimed invention were known in the prior art. See *KSR International Co. v. Teleflex, Inc.*, 82 USPQ2d 1385, 1395 (U.S. 2007); MPEP 2143.02.

As noted above, an exemplary embodiment of the present disclosure provides that a preset list (e.g., running program status list 242) of programs that are authorized to be run on the controlling apparatus (e.g., computer 200) to control the image forming apparatus (e.g., MFP 100) is stored. This list is exhaustively inclusive of every program which is authorized to be run on said controlling apparatus, such

that each program not included in this list is judged, without exception, to be an illegal file resulting from computer infection (see, e.g., paragraphs [0074] and [0077]-[0078] on pages 22-24 of the specification).   Furthermore, the disclosed embodiment provides that every program that is judged to be an illegal program is inhibited from being run on the controlling apparatus. Consequently, if a program whose running state has been confirmed is not included in the preset list of programs which are authorized to be run on the controlling apparatus, then that program is, without exception, inhibited from being run on the controlling apparatus.

When a computer virus infiltrates into a computer, the virus often creates a new program and/or file. In the case of a general-purpose computing device, the number of programs and files that can be run is not limited to a preset list, due to the desire to allow users to add new programs or files and modify or delete existing programs or files. For example, general purpose computing devices, including mobile computing devices such as those disclosed in Geiger, are configured to allow users to add software programs containing executable and non-executable files, and add new non-executable files, such as a word processing document, for example. Therefore, conventional virus detection systems seek to compare a file against files that are known to be created by known viruses.

On the other hand, according to the embodiments of the present disclosure, since the preset list of programs represents a limited number of programs that are authorized be run on the controlling apparatus to control the image forming apparatus, the detection of a program that is not included in the preset is judged to be an illegal program resulting from a computer virus infection. This judgment can be carried out because a limited number of programs that are authorized to be run on the controlling apparatus are stored in the preset list of programs.

These features of the claimed invention would be disadvantageous to the functions and purpose of a general-purpose computer. In particular, limiting a general-purpose computer to a preset list of programs would defeat the purpose of permitting a user to create, add and modify files and programs on the general-purpose computer. On the contrary, general-purpose computers are designed to allow dynamic modifications. Consequently, virus detection and prevention systems for general-purpose computers detect programs do not judge a file or program that is

not included in a list of authorized programs or files to be an illegal program resulting from a computer virus, because such a system would severely limit the functionality of a general-purpose computer in allowing its user to create, add and/or modify existing files with the general-purpose computer.

Independent claims 1, 11 and 19 recite various features of the above-described exemplary embodiment.

For instance, claim 1 recites the step of (1) storing a preset list of programs that are authorized to be run on the controlling apparatus to control the image forming apparatus, where the preset list is exhaustively inclusive of every program which is authorized to be run on the controlling apparatus. Furthermore, claim 1 recites that (2) each program which is not included in the preset list of programs that are authorized to be run to control the image forming apparatus, is judged as an illegal program resulting from a computer virus infection, and (3) every program that is judged to be an illegal program is inhibited from being run on the controlling apparatus.

Claim 11 recites a controlling apparatus that comprises a processor configured to execute features corresponding to the above-described features (1)-(3) of claim 1. Claim 19 recites a method comprising steps corresponding to features (1)-(3) of claim 1.

The applied references, either individually or in combination, do not disclose or suggest features (1)-(3) of claims 1, 11 and 19. In particular, the fundamental difference between the claimed invention and the hypothetical combination of incongruous references proposed by the Office is the manner of determining whether a program is an illegal program based on whether it is included or not included in a preset list of programs. Claims 1, 11 and 19 each recite that each program whose running state is confirmed is judged to be an illegal program if that program is not included in a preset list of programs that is exhaustively inclusive of every program which is authorized to be run on the controlling apparatus, and that every program that is judged to be an illegal program is inhibited from being run on the controlling apparatus. On the other hand, the hypothetical combination proposed by the Office first confirms whether a program is a member of a list of programs, and then further

judges whether that program is really illegal or not based on whether the program is included on a second list containing known viruses and/or quarantined programs.

With reference to Figure 1, Geiger discloses a system of pre-verification of executable applications in a mobile communications device 10, e.g., a smart phone. The communications device 10 has a microprocessor 12, a program memory 13, and a subscriber identity module (SIM) 15 (page 3, lines 13-19). The SIM 15 contains a list 33 of authorized programs (page 4, lines 2-3). The list 33 of authorized programs is generated and loaded into the SIM 15 when the mobile subscriber is issued the SIM 15 for use with the communications device 10 (see page 4, lines 18-19).

Geiger discloses that in order to run an application, a check is made against the list 33 to verify whether the application is authorized to be run (see page 4, lines 10-12). Based on this disclosure, the Office alleged that Geiger corresponds to the features of the claimed invention. However, any similarity between Geiger and the claimed invention ceases at this point in the disclosure of Geiger.

Geiger discloses that new applications 40 can be downloaded from a base station 40, stored in the program memory 13 and executed by the microprocessor 12 (see, e.g., page 4, lines 12-13, and page 5, lines 21-22). Accordingly, Geiger discloses that the communications device 10 is a general-purpose computer in which the subscriber can add new applications 40 after the subscriber obtains the communications device 10 and SIM 15, similar to the manner in which a user of a general-purpose computer can add and/or modify applications on the general-purpose computer.

Geiger is directed to shortcutting the verification process for applications which have been approved and thus appear in the list 33 of authorized applications, and new programs 40 which are subsequently verified, so that the authenticity of the applications do not have to be verified each time the application is executed. Geiger discloses that a hash code (fingerprint) is stored in the SIM 15 for each application 30 that is identified in the list 33 of authorized applications at the time the SIM 15 is issued to the subscriber. In other words, a fingerprint is stored in the SIM 15 for each application that is preloaded into the SIM 15 and identified in the list 33 of authorized applications (see page 4, line 19 to page 5, line 12, and Figure 2).

Geiger discloses that each time a new application 40 is launched and/or downloaded, the process of Figure 3 is completed. In Figure 3, a hash code is created for the new application, and the new application 40 is checked against the list 33 of authorized applications by comparing the generated hash code with the hash codes stored in the authorized list 33 stored in the SIM 15. If the new application 40 is contained in the list of authorized applications, then execution of the new application 40 is permitted. On the other hand, if the new application 40 is not contained in the list 33, then a full verification process is performed in which a digital signature of the application is verified. If the digital certificate of the new application 40 is verified, then the new application 40 is executed. Conversely, if the digital certificate of the new application 40 is not verified, then the new application 40 is not launched (see page 5, line 19 to page 6, line 20, and Figure 3).

Accordingly, Geiger discloses a two-stage verification technique in which an application which is desired to be launched is first compared against a list 33 of authorized programs. If the application 33 is contained in the list 33, then it is permitted to be executed. However, even if the application is not contained in the list 33, the application is still permitted to be executed if a subsequent "full verification" is successful.

Therefore, contrary to the claimed invention, even if an application is not contained in the list 33 of authorized applications, that application is still permitted to be executed if a "full verification" of the application is successful. Accordingly, Geiger expressly discloses that there is an exception to authorizing an application if the application is not contained in the list 33 of authorized applications. In particular, the exception to the list 33 is that if the "full verification" (digital signature) of the application is successful, then that application is permitted to be executed even though the application is not contained in the list 33 of authorized applications.

In contrast to Geiger, claims 1, 11 and 19 recite that (1) a stored preset list of programs that are authorized to be run on the controlling apparatus to control the image forming apparatus is <u>exhaustively inclusive of every program which is authorized to be run on the controlling apparatus</u>, (2) <u>each</u> program which is not included in the preset list of programs that are authorized to be run to control the image forming apparatus, is judged as an illegal program resulting from a computer

virus infection, and (3) <u>every program</u> that is judged to be an illegal program is <u>inhibited from being run</u> on the controlling apparatus. Accordingly, in contrast to Geiger which permits an exception, claims 1, 11 and 19 recite that every program that is judged to be an illegal program is inhibited from being run. Thus, claims 1, 11 and 19 are markedly different from Geiger since Geiger expressly discloses an exception to the list 33 of authorized applications.

Accordingly, Geiger does not disclose or suggest features (1)-(3) of claims 1, 11 and 19.

Radatti discloses a technique of detecting computer viruses by comparing hash values created for known viruses to a list of viruses, and/or by detecting files which are present but which were not present prior to the virus check. However, similar to Geiger, Radatti also does not disclose or suggest features (1)-(3) of claims 1, 11 and 19.

Motoyama also does not disclose, suggest or contemplate features (1)-(3) of claims 1, 11 and 19.

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19 are patentable over Geiger, Radatti and Motoyama, since these references, either individually or in combination, fail to disclose or suggest features (1)-(3) of claims 1, 11 and 19.

In addition to failing to disclose or suggest all the recited features of claims 1, 11 and 19, Applicant respectfully submits that it would not have been obvious to modify Geiger in the manner proposed by the Office in an attempt to arrive at the claimed invention. The two-stage verification process of Geiger attempts to shorten the verification time for newly added applications 40. The verification process of Geiger is rendered meaningless if only preloaded authorized applications contained in the list 33 are permitted to be executed on the communications device 10, because the communications device 10 is configured to permit a subscriber to download new programs 4. The verification process of Geiger seeks to ensure that any new program 40 is downloaded from an authorized source. Therefore, modifying Geiger so that its applications are restricted to a limited purpose is contrary to the disclosure, purpose and objective of Geiger.

Accordingly, in addition to failing to disclose or suggest all the recited features of claims 1, 11 and 19, Applicant respectfully submits that it would not have been obvious to modify Geiger, Radatti and Motoyama in the manner proposed by the Office in an attempt to arrive at the claimed invention.

Therefore, Applicant respectfully submits that claims 1, 11 and 19 are patentable over Geiger, Radatti and Motoyama.

B.   Dependent claims 4, 14 and 26 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Geiger in view of Radatti and Motoyama and further in view of Cozza (U.S. 5,649,095).

As discussed above, Geiger, Radatti and Motoyama each fail to disclose or suggest features (1)-(3) of claims 1, 11 and 19. Similarly, Cozza also fails to disclose or suggest features (1)-(3) of claims 1, 11 and 19.

Consequently, Cozza cannot cure the deficiencies of Geiger, Radatti and Motoyama for failing to disclose or suggest all the recited features of claims 1, 11 and 19.

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19, as well as the claims depending therefrom, are patentable over Geiger, Radatti, Motoyama and Cozza, since these references, either individually or in combination, do not disclose or suggest all the recited features of the claimed invention.

Dependent claims 2-4, 12-14 and 24-26 recite further distinguishing features over the applied references, and are also patentable by virtue of depending from claims 1, 11 and 19. The foregoing explanation of the patentability of claims 1, 11 and 19 is sufficiently clear such that it is believed to be unnecessary to separately demonstrate the additional patentable features of the dependent claims at this time. However, Applicant reserves the right to do so should it become appropriate.

III.   Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. Accordingly, a favorable examination and consideration of the instant application are respectfully requested.

If, after reviewing this Amendment, the Examiner believes there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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